

### **Remarks**

Claims 1-84 are pending in this application. By this Response, claims 1, 5, 6, 11-14, 25, 28, 31, 32, 34, 40, 41, 43, 45, 46, 50, 51, 62, 64, 65, 67, 77, 81, and 82 are amended. After entry of this Response, claims 1-84 will remain pending. Reconsideration in view of the above amendments to the claims and following remarks is respectfully requested.

### **Claim Amendments**

Independent claims 1, 13, 25, 45, 65, 67, and 82 have been amended as will be explained in more detail below. Claims 11, 12, 14, 28, and 46 have been amended for consistency in view of the amendments to the independent claims.

Claims 5, 31, 34, 62, 64, and 67 have been amended to correct minor typographical errors.

Claim 6 has been amended to provide proper antecedent basis for the claimed feature “digital content requests” as will be discussed in more detail below.

Claims 32, 40, 41, 43, 77, and 81 have been amended to provide proper claim dependency.

Claims 50 and 51 have been amended to rephrase the features recited therein.

### **Rejection of Claim 6 Under 35 U.S.C. § 112**

Claim 6 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. More specifically, the Office Action alleges the recitation of “the digital content requests” in claim 6 lacks sufficient antecedent basis.

In response to the § 112 rejection of claim 6, Applicant has amended claim 6 to recite “wherein the digital content server fulfills digital content requests from a plurality of users.”

As amended, the recitation of “the digital content requests” has proper and sufficient antecedent basis. Based on the amendment to claim 6, withdrawal of the rejection of claim 6 is respectfully requested.

### **Drawings**

The Office Action objects to Figure 1 for not being designated by a legend indicating the features shown are old.

In amended Figure 1, the notation “PRIOR ART” has been added. Accordingly, withdrawal of the objection to Figure 1 is respectfully requested.

### **Specification**

The Office Action objects to the specification because the original specification allegedly does not support the features “concurrently transmitting a second digital data stream on the first channel in a second transmission direction” in claim 65, and “concurrently transmit user requested data on a plurality of user channels within the spectrum historically dedicated to analog broadcast signals” in claim 67. Applicant respectfully disagrees.

Regarding claim 65, the pending application discloses “to increase quantity of services even further, the present invention may use directional transmission and reception of both forward channels and back-channels” and “directional transmission facilitates transmitting different data in different directions using the same channel.” Application, Page 4, Paragraph 14. Although not explicitly stated, this portion of the application at least implicitly suggests that a second digital data stream can be transmitted on the same channel and at the same time as a first digital data stream, but in a different transmission direction. Moreover, originally filed claim 65 itself “constitutes a clear disclosure of [the] subject matter” recited therein. See MPEP § 608.01(l) (“where subject matter not shown in the drawing or described in the description is claimed in the application as filed ... then the claim should be treated on its merits, and

requirement made to amend the drawing and description to show this subject matter.”).

Accordingly, Applicant has amended Paragraph 14 of the specification to recite “directional transmission facilitates concurrently transmitting different data in different direction using the same channel.” Applicant submits that the disclosure in claim 65 is “sufficiently specific and detailed to support the necessary amendment of the ... description.” *Id.*

Regarding claim 67, the pending application discloses “a system for delivering digital services includes a transmitter configured to transmit broadcast data on one or more broadcast channels within a spectrum historically dedicated to analog broadcast signals while concurrently transmitting user requested data on one or more user channels.” Application, Page 5, Paragraph 16 (emphasis added). Accordingly, the original specification supports the features of “concurrently transmit user requested data on a plurality of user channels within the spectrum historically dedicated to analog broadcast signals” as recited in claim 67.

**Rejection of Claims 1-4, 6, 7, 9, 10-12, 25-28, 30-32, 35-38, and 44 Under 35 U.S.C. § 102(e)**

Claims 1-4, 6, 7, 9, 10-12, 25-28, 30-32, 35-38, and 44 stand rejected under 35 U.S.C. § 102(e) for allegedly being anticipated by U.S. Patent Application Publication No. 2002/0136231 (“Leatherbury”). This rejection is respectfully traversed.

As amended, independent claim 1 recites “an apparatus for delivering digital services” comprising “a transmitter configured to transmit the digital broadcast data over an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system, the digital broadcast data being transmitted on a broadcast channel within a spectrum historically dedicated to analog broadcast signals” and “further configured to transmit the digital user requested data over the over-the-air data delivery system ... on a user channel within the spectrum historically dedicated to analog broadcast signals.” Similarly, amended independent claim 25 recites a “method for delivering digital services” comprising “transmitting digital broadcast data via an over-the-air data delivery system comprising at least a portion of an

existing over-the-air analog broadcast system, the digital broadcast data being transmitted on at least one broadcast channel within the historically dedicated spectrum” and “transmitting digital user data via the over-the-air data delivery system on at least one user channel within the historically dedicated spectrum.”

Leatherbury does not teach each and every feature of claims 1 and 25 because Leatherbury does not disclose an apparatus or method for delivering digital services that transmits digital broadcast data and digital user data over an “over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system.” Rather, Leatherbury describes a communication system “for providing dedicated bandwidth to at least one subscriber location for transmitting to a common point of distribution via an HFC network.” Leatherbury, Abstract. The HFC distribution network “comprises coaxial cables that are distributed from each node 107 to the respective subscriber locations 109.” *Id.* at Page 4, Paragraph 37.

As discussed in the pending application, cable systems, such as the Leatherbury communication system, has several shortcomings, such as “the cost of building the infrastructure for such systems remains a barrier to accessing many markets.” Application, Page 1, Paragraph 2. Moreover, as discussed in the pending application, cable systems are not “existing non-cable broadcast systems ... typically restricted to delivery of one media type or service.” *Id.* Typical non-cable or over-the-air broadcast systems utilize only spectrums historically dedicated to analog broadcast signals, such as “AM radio, FM radio, VHF television programming, and UHF television programming.” *Id.* at Paragraph 3. Nowhere in the referenced portions, or in any other portions, of Leatherbury does it mention utilizing non-cable, over-the-air broadcast systems for delivering digital services, let alone utilizing an existing over-the-air analog broadcast system for delivering digital services.

Because the hybrid fiber coax (HFC) network utilizes coaxial cables, the Leatherbury communication system is a cable system, and not an over-the-air data delivery system as recited

in claims 1 and 25. Moreover, because Leatherbury does not even mention existing over-the-air analog broadcast systems, the Leatherbury communication system does not teach an over-the-air data delivery system comprising “at least a portion of an existing over-the-air analog broadcast system” as recited in claims 1 and 25. For at least these reasons, Leatherbury does not teach the combination of features recited in claims 1 and 25. Accordingly, withdrawal of the rejection of claims 1 and 25 is respectfully requested.

Claims 2-4, 6, 7, 9, and 10-12, being dependent upon base claim 1, and claims 26-28, 30-32, 35-38, and 44, being dependent upon base claim 25, are allowable for at least the same reasons as for the respective base claims, as well as in view of the respective additional features recited therein. Accordingly, withdrawal of the rejection of claims 2-4, 6, 7, 9, 10-12, 26-28, 30-32, 35-38, and 44 is respectfully requested.

#### **Rejection of Claims 13-20, 24, 45-49, 52-57, and 60-62 Under 35 U.S.C. § 102(e)**

Claims 13-20, 24, 45-49, 52-57, and 60-62 stand rejected under 35 U.S.C. § 102(e) for allegedly being anticipated by U.S. Patent Application Publication No. 2002/0147978 (“Dolgonos”). This rejection is respectfully traversed.

As amended, independent claim 13 recites “an apparatus for receiving digital services” comprising “an antenna configured to receive a digitally encoded transmission signal within a spectrum historically dedicated to analog broadcast signals ... wherein the digitally encoded transmission signal is transmitted via an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system.” Similarly, independent claim 45 has been amended to recite “a method for receiving digital services” comprising “receiving a digitally encoded transmission signal within a spectrum historically dedicated to analog broadcast signals ... wherein the digitally encoded transmission signal is transmitted via an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system.”

Dolgonos does not disclose an apparatus or method for receiving digital services where a digitally encoded transmission signal is transmitted “via an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system” (emphasis added). Rather, Dolgonos describes a hybrid cable/wireless communications system that “combines wireless antenna nodes with existing cable infrastructure to provide mobile wireless Internet services and video distribution.” Dolgonos, page 2, paragraph 17. More specifically, the Dolgonos system relies on a fiber/coaxial cable plants to which bi-directional antenna nodes are connected to provide Internet serve to wireless subscriber units. See, e.g., *Id.* Like the Leatherbury communication system, the cable plants of the Dolgonos system embodies a conventional cable system, and not an over-the-air data delivery system as recited in claims 13 and 45. Additionally, the bi-direction antenna nodes are not an “existing over-the-air analog broadcast system” as recited in claims 13 and 45. Rather, the antenna nodes are specifically designed for use with the cable system of Dolgonos to provide broadband internet services. Nowhere in Dolgonos does it mention that the antenna nodes, or any other portion of the hybrid cable/wireless communications system of Dolgonos, are or utilize a pre-existing over-the-air analog broadcast system.

Because the cable plants of the Dolgonos communications system is a cable system and the antenna nodes of the Dolgonos system do not include even a portion of an existing over-the-air analog broadcast system, Dolgonos does not teach an over-the-air data delivery system comprising “at least a portion of an existing over-the-air analog broadcast system” as recited in claims 13 and 45. For at least these reasons, Leatherbury does not teach the combination of features recited in claims 13 and 45. Accordingly, withdrawal of the rejection of claims 13 and 45 is respectfully requested.

Claims 14-20 and 24, being dependent upon base claim 13, and claims 46-49, 52-57, and 60-62, being dependent upon base claim 45, are allowable for at least the same reasons as for the respective base claims, as well as in view of the respective additional features recited therein.

Accordingly, withdrawal of the rejection of claims 14-20, 24, 46-49, 52-57, and 60-62 is respectfully requested.

**Rejection of Claim 65 Under 35 U.S.C. § 102(e)**

Claim 65 stands rejected under 35 U.S.C. § 102(e) for allegedly being anticipated by U.S. Patent Application Publication No. 2004/0172658 (“Rakib”). This rejection is respectfully traversed.

As amended, claim 65 recites “a method for providing digital services” comprising “transmitting a first digital data stream via an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system” and “concurrently transmitting a second digital data stream via the over-the-air data delivery system.”

Rakib describes a home network system with “a host bus and host computer programmed to do management and control functions and a routing function, one or more local area network interfaces and one or more external network interfaces.” Rakib, page 3, paragraph 21. Rakib is not concerned with how data is delivered or what systems are used to deliver data to the home network system. Rather, Rakib is only concerned with how data received from external systems is distributed to devices within a home. For at least this reason, and because Rakib does not mention transmitting digital data streams over an existing over-the-air analog broadcast system, Rakib does not teach transmitting digital data streams “via an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system” as recited in claim 65.

Based on the foregoing, Rakib does not anticipate each and every feature recited in claim 65. Therefore, withdrawal of the rejection of claim 65 is respectfully requested.

**Rejection of Claims 67-76 and 78-81 Under 35 U.S.C. § 102(e)**

Claims 67-76 and 78-81 stand rejected under 35 U.S.C. § 102(e) for allegedly being anticipated by U.S. Patent Application Publication No. 2003/0196211 (“Chan”). This rejection is respectfully traversed.

As amended, claim 67 recites “a system for delivering digital services” comprising “a transmitter configured to transmit digital broadcast data over an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system, the digital broadcast data being transmitted on a plurality of broadcast channels within a spectrum historically dedicated to analog broadcast signals and concurrently transmit digital user requested data over the over-the-air delivery system on a plurality of user channels within the spectrum historically dedicated to analog broadcast signals.”

Chan does not teach the combination of features recited in claim 67. Rather, Chan describes “cable television systems supporting digital services.” Chan, page 1, paragraph 1. The Chan system includes a set-top box that receives content via a hybrid/fiber coax network. *Id.* at page 2, paragraph 24. The network connects to the set-top box “through coaxial cable in a logical tree configuration.” *Id.* In other words, Chan teaches that digital content is transmitted to a set-top box (e.g., receiver) via a series of optical and coaxial cables, not an over-the-air data delivery system.

The Chan system is in direct contrast with the system of claim 67, which transmits digital broadcast data over an over-the-air data delivery system. As discussed above, a hybrid/fiber coax network, such as described in Chan, is not an over-the-air data delivery system. Moreover, even if Chan described an over-the-air data delivery system, which it does not, Chan certainly does not teach that the system comprises “at least a portion of an existing over-the-air analog broadcast system” as recited in claim 67. Based on the foregoing, Chan does not teach transmitting digital broadcast data over an over-the-air data delivery system, much less an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system.



Accordingly, Chan does not anticipate each and every feature recited in independent claim 67. Therefore, withdrawal of the rejection of claim 67 is respectfully requested.

Claims 68-76 and 78-81, being dependent upon base claim 68, are allowable for at least the same reasons as for the base claim, as well as in view of the respective additional features recited therein. Accordingly, withdrawal of the rejection of claims 68-76 and 78-81 is respectfully requested.

#### **Rejection of Claims 82-84 Under 35 U.S.C. § 102(e)**

Claims 82-84 stand rejected under 35 U.S.C. § 102(e) for allegedly being anticipated by U.S. Patent No. 5,930,231 (“Miller”). This rejection is respectfully traversed.

Independent claim 82 recites “an apparatus for delivering telephone service to a geographic region” comprising “a transmitter configured to transmit the telephony data over an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system, the telephony data being transmitted on a broadcast channel within a spectrum historically dedicated to analog broadcast signals” and “a back-channel receiver configured to receive telephony data over the over-the-air data delivery system on a plurality of back-channels.”

Miller does not teach the combination of features recited in independent claim 82. Rather, Miller describes a communications system where “telephony signals from the telephony network are coupled to the CATV network 12 and are communicated over the CATV network to an addressed subscriber premises 30” and “the addressed subscriber 30 communicates telephony signals back over the CATV network 12 which are then coupled to the telephony network 10. Miller, column 12, lines 3-9. As defined in Miller, CATV networks are “broadband communications networks of coaxial cable and optical fiber that distribute television, audio, and data signals to subscriber homes or businesses.” Miller, column 1, lines 35-39.

As discussed above, CATV or cable networks, such as described in Miller, are not over-the-air data delivery systems. Moreover, even if Miller described an over-the-air data delivery system, which it does not, Miller certainly does not teach that the system comprises “at least a portion of an existing over-the-air analog broadcast system” as recited in claim 82. Based on the foregoing, Miller does not teach transmitting telephony data over an over-the-air data delivery system, much less an over-the-air data delivery system comprising at least a portion of an existing over-the-air analog broadcast system.

Accordingly, Miller does not anticipate each and every feature recited in independent claim 82. Therefore, withdrawal of the rejection of claim 82 is respectfully requested.

Claims 83 and 84, being dependent upon base claim 82, are allowable for at least the same reasons as for the base claim, as well as in view of the respective additional features recited therein. Accordingly, withdrawal of the rejection of claims 83 and 84 is respectfully requested.

#### **Rejection of Claims 5, 8, 29, 33, and 39-43 Under 35 U.S.C. § 103(a)**

Claims 5, 8, 29, 33, and 39-43 stand rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Leatherbury. This rejection is respectfully traversed.

Independent claim 1 is not obvious over Leatherbury for at least the reasons discussed above in favor of allowance of claim 1. Claims 5 and 8, being dependent upon base claim 1, are allowable for at least the same reasons as for claim 1, as well as in view of the respective additional features recited therein. Therefore, withdrawal of the obviousness rejection of claims 5 and 8 is respectfully requested.

Independent claim 25 is not obvious over Leatherbury for at least the reasons discussed above in favor of allowance of claim 25. Claims 29, 33, and 39-43, being dependent upon base claim 25, are allowable for at least the same reasons as for claim 25, as well as in view of the respective additional features recited therein. Therefore, withdrawal of the obviousness rejection of claims 29, 33, and 39-43 is respectfully requested.

**Rejection of Claims 21, 23, 50, 51, 63, and 64 Under 35 U.S.C. § 103(a)**

Claims 21, 23, 50, 51, 63, and 64 stand rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Dolgonos. This rejection is respectfully traversed.

Independent claim 13 is not obvious over Dolgonos for at least the reasons discussed above in favor of allowance of claim 13. Claims 21 and 23, being dependent upon base claim 13, are allowable for at least the same reasons as for claim 13, as well as in view of the respective additional features recited therein. Therefore, withdrawal of the obviousness rejection of claims 21 and 23 is respectfully requested.

Independent claim 45 is not obvious over Dolgonos for at least the reasons discussed above in favor of allowance of claim 45. Claims 50, 51, 63, and 64, being dependent upon base claim 45, are allowable for at least the same reasons as for claim 45, as well as in view of the respective additional features recited therein. Therefore, withdrawal of the obviousness rejection of claims 50, 51, 63, and 64 is respectfully requested.

**Rejection of Claim 34 Under 35 U.S.C. § 103(a)**

Claim 34 stands rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Leatherbury in view of U.S. Patent No. 7,225,162 (“Kim”). This rejection is respectfully traversed.

As discussed above, independent claim 25 is not obvious over Leatherbury because of several deficiencies in the teachings of Leatherbury. Kim, which describes a read-only disk containing sample data and a reproducing method, fails to overcome the deficiencies of Leatherbury. More specifically, Kim does not teach an over-the-air data delivery system comprising “at least a portion of an existing over-the-air analog broadcast system.” Accordingly, independent claim 25 is not obvious over Leatherbury in view of Kim.

Claim 34, being dependent upon base claim 25, is allowable for at least the same reasons as for claim 25, as well as in view of the respective additional features recited therein. Therefore, withdrawal of the obviousness rejection of claim 34 is respectfully requested.

**Rejection of Claims 58 and 59 Under 35 U.S.C. § 103(a)**

Claims 58 and 59 stand rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Dolgonos in view of Kim. This rejection is respectfully traversed.

As discussed above, independent claim 45 is not obvious over Dolgonos because of several deficiencies in the teachings of Dolgonos. Kim fails to overcome the deficiencies of Dolgonos. More specifically, Kim does not teach an over-the-air data delivery system comprising “at least a portion of an existing over-the-air analog broadcast system.” Accordingly, independent claim 45 is not obvious over Dolgonos in view of Kim.

Claims 58 and 59, being dependent upon base claim 45, is allowable for at least the same reasons as for claim 45, as well as in view of the respective additional features recited therein. Therefore, withdrawal of the obviousness rejection of claims 58 and 59 is respectfully requested.

**Rejection of Claim 66 Under 35 U.S.C. § 103(a)**

Claim 66 stands rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Rakib. This rejection is respectfully traversed.

Independent claim 65 is not obvious over Rakib for at least the reasons discussed above in favor of allowance of claim 65. Claim 66, being dependent upon base claim 65, is allowable for at least the same reasons as for claim 65, as well as in view of the respective additional features recited therein. Therefore, withdrawal of the obviousness rejection of claim 66 is respectfully requested.

**Rejection of Claim 77 Under 35 U.S.C. § 103(a)**

Claim 77 stands rejected under 35 U.S.C. § 103(a) for allegedly being obvious over Chan. This rejection is respectfully traversed.

Independent claim 67 is not obvious over Chan for at least the reasons discussed above in favor of allowance of claim 67. Claim 77, being dependent upon base claim 67, is allowable for at least the same reasons as for claim 67, as well as in view of the respective additional features recited therein. Therefore, withdrawal of the obviousness rejection of claim 77 is respectfully requested.

**Conclusion**

Based on the foregoing, Applicant respectfully submits that the current claims are drawn to allowable subject matter and that the application is in condition for allowance. Should the Examiner believe that anything further, such as amendments to the claims, is necessary to place this application in better condition for allowance, the Examiner is requested to contact Applicant's representative by telephone.

Respectfully submitted,

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